

Date: Mon, 18 Apr 94 04:30:06 PDT
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>
Errors-To: Ham-Ant-Errors@UCSD.Edu
Reply-To: Ham-Ant@UCSD.Edu
Precedence: Bulk
Subject: Ham-Ant Digest V94 #109
To: Ham-Ant

Ham-Ant Digest Mon, 18 Apr 94 Volume 94 : Issue 109

Today's Topics:

 bicycle antennas
 Discone Antenna
Formula for determining optimum distance between elements in a Yagi beam
 Satellite Receive Dishes Combined in Phase Array
 What to do for RF Ground?

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>
Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 18 Apr 1994 06:33:55 GMT
From: ihnp4.ucsd.edu!agate!biosci!parc!wirish@network.ucsd.edu
Subject: bicycle antennas
To: ham-ant@ucsd.edu

jbate@rtp-nc.mentorg.com (John Bate) writes:

>Does anyone have any good ideas about building a bike antenna
>and the mount. I am trying get some info about a decent gain
>2m antenna, probably 1/2 or 5/8 wave. I plan on putting a
>flag on the top to help make my bike visible so height is
>not too much of a problem.

>Anyone have any experience with this?

>john

I recently worked the communications for a local MS walk-a-thon as "bicycle mobile" using a 2m rig. I decided that I wanted to be able to get on and off the bike freely -- I didn't like the idea of being tethered somehow -- and I liked the idea of the radio staying with me rather than the bike. I used an HT clipped to my belt, a speaker/mic clipped to my shirt, and a homebrew "helmet mount".

With some help I fabricated a simple bracket that fastens to my helmet with velcro. On the top of the bracket is a BNC jack. Out the back of the bracket is another BNC jack. This simple, removeable system has proven to be quite versatile and a very good performer.

The BNC jack on top allows connection of virtually any BNC-based antenna. In my case I have 4 antennas to choose from: a short rubber-duck about 4", a longer rubber-duck about 8", a 1/4 whip, and a 5/8 wave collapsible. I can ride with any of the first 3 without any problems. The 5/8 is to be used while stopped, if needed.

The second BNC jack on the bracket allows me to pick and choose any length or type of coax that I want to connect to the HT, depending on the situation.

The velcro allows me to remove the entire bracket in seconds in order to return my helmet to normal use. I had some doubts about the velcro being strong enough to hold everything stable while in use but I encountered no problem. Things were remarkably stable.

Since the antenna is up as high as possible and clear of any obstructions it works quite well, whether you're on the bike or off. Also, since all of the antennas are actually HT antennas you are free to use them either on the helmet mount or directly on the HT, whichever best fits the current situation.

The BNC jack and/or the velcro enables you to remove the antenna in seconds (the bracket itself is very low-profile and virtually disappears without an antenna connected). This can be quite usefull when making a pit stop of one sort or another. The only drawback that I encountered were the various giggles and remarks that I would occasionally get from people who had never seen an antenna sticking out of someones head before. Oh well.

All-in-all I was quite happy with the entire setup. My helmet has the little velcro patches stuck to it -- all ready to go when I need it. The only thing that might change is to try a

headset rather than the speaker/mic; maybe next time...

Wes Irish, WA2CRQ
wirish@parc.xerox.com

Date: Sun, 17 Apr 94 23:43:48 GMT
From: mnemosyne.cs.du.edu!nyx10!rdavis@uunet.uu.net
Subject: Discone Antenna
To: ham-ant@ucsd.edu

For some really good information on discones, try to find the old
CQ Anthology, published back in the 60s.
They reprinted a whole series of articles on discones.
I use a Radio Shack discone, and I am told Icom makes a better one.
It does seem to have a nice low angle of radiation on two meters.

--
rdavis@nyx.cs.du.edu Robert Davis Salina, KS
 Amateur Radio K0FPC

Date: Sun, 17 Apr 1994 22:11:07
From: ihnp4.ucsd.edu!swrinde!gatech!newsxfer.itd.umich.edu!zip.eecs.umich.edu!
panix!ddsw1!elink.pr.mcs.net!gsladic@network.ucsd.edu
Subject: Formula for determining optimum distance between elements in a Yagi beam
To: ham-ant@ucsd.edu

Is there a formula for determining the optimum distances between the driven
element and the parasitic elements in a yagi beam?

I know the driven element should be a 1/2 wavelength and the reflector 5%
longer and the director 5% shorter in a 3 element beam. How do I determine
the distance between the driven element and the parasitic elements? What
about if the yagi has more than 3 elements, say 7?

Any help would be most appreciated.

Thanks,
George

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Email: gsladic@mcs.com | One week down in the waiting
Ham call: <pending> | period for my ticket.

Date: 18 Apr 1994 00:28:21 GMT
From: ihnp4.ucsd.edu!swrinde!cs.utexas.edu!uwm.edu!convex.csd.uwm.edu!
weening@network.ucsd.edu
Subject: Satellite Receive Dishes Combined in Phase Array
To: ham-ant@ucsd.edu

Is anyone aware of successful methods for combining two or more satellite receive dishes in phase array as a means of achieving receive gain comparable to a single larger dish? Is there a Usenet Group concerned with the engineering aspects of satellite broadcasting and receive technology? Thanks

Date: 14 Apr 94 05:47:35 GMT
From: agate!howland.reston.ans.net!gatech!newsxfer.itd.umich.edu!nntp.cs.ubc.ca!
cyber2.cyberstore.ca!nwnexus!ole!rwing!eskimo!wrt@ucbvax.berkeley.edu
Subject: What to do for RF Ground?
To: ham-ant@ucsd.edu

In article <2oic53\$t24@pace2.cts>,
Christopher D. Sorensen <cdsorens@mtu.edu> wrote:
>I have my station on the second floor of my house and unfortunately
there is
>no water pipes or anything of the sort for a decent RF ground.
>
>I have been told continuously that the run to the earth ground must be
short
>for it to be effective. Would it be ok to have a pipe driven in the
ground
>outside just as though I had a groundfloor station and just run the
ground wire
>down outside to the ground rod? Or would this just be a waste of
time?
>
>I don't get any bites, but I would sure like to have a good rf ground
system.
>especially when I eventually run more power.
>
>Any info appreciated.
>
>Chris --- N8PBI
>

Contrary to ancient and widespread opinion, Chris, you don't NEED an RF ground on your rig at all, with one exception: when you are intentionally using the ground as part of the antenna itself. An example would be a ground mounted vertical with no radials, where the coax braid would be connected to a rod driven into the ground. (A lousy antenna, by the way, due to guess what - ground losses!).

For antennas such as dipoles, loops, beams, etc, forget the RF ground. You want your hard-earned RF up in the air where it belongs, and as far away from the earth as possible.

Now this is not to say your rig shouldn't be grounded - it should for safety - but the "third pin" on the ac plug will do the job just fine. This is not an RF ground though, just a 60 Hz one.

You say you're not getting any RF "bites" off your rig, which is good. If you ever do though, please don't just try to "ground" it. Anytime one has RF in the shack, one has a problem in the antenna system. Almost always, the problem is due to unbalance in the antenna, or less commonly, in the feedline. Fix the unbalance if at all possible, or if you really can't, then at least put a balun or isolating type tuner in the feedline as appropriate.

Grounding for lightning protection is a whole 'nother subject, which I will leave to the experts. Us Pacific Northwesters don't hardly know what it is :->

RF energy is expensive to generate - don't waste it by grounding it!

73 es gl

Bill, W7LZP

End of Ham-Ant Digest V94 #109
